NEWS RELEASE

CONNECTICUT ACADEMY OF SCIENCE AND ENGINEERING

CONTACT: Karen Cohen, Associate Director
(860) 282-4229; kcohen@ctcase.org

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Celebrate, Promote, Inform in Service to CT

Menachem Elimelech and ARKA Group, LP, Awarded the 2024 Connecticut Medals of Technology

East Hartford, CT —Menachem Elimelech, Sterling Professor of Chemical and Environmental Engineering at Yale University, **and ARKA Group, LP,** have been selected as the 2024 recipients of the Connecticut Medals of Technology. The awardees will accept their medals at the 49th Annual Meeting and Dinner of the Connecticut Academy of Science and Engineering, to be held at The Woodwinds in Branford on May 21, 2024.

Dr. Elimelech is recognized for his pioneering developments of energy-efficient, sustainable membrane-based technologies for desalination and the management of brines and industrial wastewaters. He is a leading international authority who has transformed the field of environmental engineering, particularly in these areas.

ARKA Group is awarded the Connecticut Medal of Technology for the company's 60-year legacy of developing world-class optical technologies, ground processing and analytics and next-generation space solutions, supporting science and national security and providing sustained and significant benefits to Connecticut's economy.

"As Connecticut Technology Medal honorees, both awardees demonstrate our state's incredible infrastructure of science, technology, engineering, mathematics, and medical talent and resources," said Governor Ned Lamont. "Our state may be small demographically and geographically, but we are a significant force as a global technology leader propelled by our research community, companies, skilled workforce, and focus on long-lasting equitable economic and skilled workforce development. Please join me in thanking Dr. Elimelech and ARKA for their work and dedication to technology excellence and congratulating them on receiving Connecticut's highest honor for technological achievement."

"Dr. Elimelech's pioneering research has not only enriched the academic community's understanding of a highly complex topic, but also led to innovative approaches to addressing critical environmental issues and spawned the growth of an industry," he said. "ARKA's unparalleled technology expertise is contributing to the success of our nation in a variety of sectors and creating high-skilled jobs that will attract investment to our state and enhance our economy."

Elimelech's research and development is in the application of membrane processes including forward osmosis or FO (for desalination and water reuse), high-pressure reverse osmosis or HPRO (for brine concentration and management), and low-salt-rejection reverse osmosis or LSRRO (for brine management and minimal- and zero-liquid discharge applications).

HPRO and LSRRO are expected to revolutionize low-energy, low-cost brine management. Gradiant, a US company specializing in brine management (minimum- and zero-liquid discharge, MLD/ZLD), is commercializing a variant of the LSRRO and FO technologies, which is called Counter Flow RO (CFRO). The current market of brine management is estimated at $11.5B.

Elimelech's innovative work on forward osmosis (FO) profoundly impacted the desalination and water industry. He was a co-founder of Oasys Water, a company which commercialized the ammonia-carbon dioxide FO desalination technology. More than 13 new FO start-up companies have been formed following his pioneering FO research.

In a recent breakthrough, Elimelech showed that the solution-diffusion model, which has been used to describe water transport in reverse osmosis (RO) membranes for more than 50 years, is fundamentally flawed and he proposed an

alternative mechanism and theory for water transport consistent with experimental observations. This finding has direct implications for the design of high-performance desalination membranes.

Elimelech earned his BS and MS degrees from the Hebrew University of Jerusalem and his PhD in environmental engineering from Johns Hopkins University in 1989. In his first appointment, Elimelech served as professor and vice chair of the Department of Civil and Environmental Engineering at UCLA. He joined Yale in 1998 as director and founder of the university's Environmental Engineering Program as well as Llewellyn West Jones Professor in the Department of Chemical Engineering. In 2005, he was named Roberto C. Goizueta Professor and became chair of Yale's Chemical and Environmental Engineering Department.

In 2021, he was appointed Sterling Professor of Chemical and Environmental Engineering, the university's highest academic rank; the first engineering professor at Yale to earn this distinction.

His major awards and honors include the International Water Association (IWA) Membrane Technology Award (2023); Honorary Doctorate, Ben-Gurion University, Israel (2023); Prince Sultan Bin Abdulaziz International Prize for Water (2023); Eni Prize for 'Protection of the Environment' -- often considered the Nobel Prize in energy/environment -- (2015); The Simon W. Freese Environmental Engineering Award and Lecture, American Society of Civil Engineers (2011); The American Institute of Chemical Engineers Lawrence K. Cecil Award in Environmental Chemical Engineering (2008); and The Athalie Richardson Irvine Clarke Prize, National Water Research Institute (2005).

Professor Elimelech is an elected member of the Canadian Academy of Engineering (2022); Australian Academy of Technology and Engineering (2021); Chinese Academy of Engineering (2017); Connecticut Academy of Science and Engineering (2007); and United States National Academy of Engineering (2006).

ARKA is a world leader in the design, development, manufacture, integration and test of precision optics, telescopes and electro-optical payload systems for defense, aerospace and scientific applications. ARKA's mission has grown to include groundbreaking communications, software development, and data processing capabilities, expanding their reach to new areas of innovation.

"At ARKA, we are committed to solving our customers' hardest problems with ingenuity and expertise, to protect our military and advance our understanding of the universe," said ARKA Chief Executive Officer Andreas Nonnenmacher. "Congratulations to our engineering team, whose talent and passion are second to none. We are honored to receive this prestigious award and look forward to pushing the boundaries of innovation and technology even further in years to come."

In December, the Danbury-based company entered a $136 million, five-year contract with the U.S. Army for AN/VVR-4 Laser Detecting Sets, designed to optimize military operations and ensure the safety and effectiveness of troops in the field.

In April, ARKA completed a two-year, $85 million expansion of its 550,000 square-foot facility in Danbury to increase production capability of smallsat systems, payloads and optical coating capabilities.

Based in Danbury, Connecticut, ARKA is a fully integrated mission partner providing world-leading technologies and services with an unrivaled reputation for excellence. ARKA's 60-year legacy reaches back to the beginnings of our country's space endeavors. Our advanced capabilities address the needs of the warfighter, including world-class optical technologies, ground processing and analytics and next-generation space solutions. ARKA helps create a safer world, driven by innovation, mission performance and advanced engineering. For more information, visit arka.org.

The Connecticut Medal of Technology is awarded to individuals, teams, and companies/non-profits or divisions of companies/non-profits for their outstanding contributions to the economic, environmental, and social well-being of

Connecticut and the nation through the promotion of technology, technological innovation, or the development of the technological workforce. By highlighting the importance of technological innovation, the Medal also seeks to inspire future generations to prepare for and pursue technical careers to keep Connecticut and the nation at the forefront of global technology and economic leadership. Modeled after the National Medal of Technology and Innovation, this award is bestowed by the state of Connecticut by direction of the Office of the Governor, with the assistance of the Connecticut Academy of Science and Engineering, in alternate years with the Connecticut Medal of Science. Visit http://www.ctcase.org/activities/medals/ to see a list of past awardees.

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The Connecticut Academy of Science and Engineering was chartered by the General Assembly in 1976 to provide expert guidance on science and technology to the people and to the state of Connecticut, and to promote the application of science and technology to human welfare and economic well being. For more information about the Academy, please see www.ctcase.org.

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